

4.0 KEY AREA PLANS AND SUSTAINABILITY



4.0 Key Area Plans and Sustainability

4.1 Introduction

Fort Monmouth Reuse and Redevelopment Plan

The Plan for Fort Monmouth creates a framework that is focused on enhancing real estate reuse and development velocity to address the creation of replacement and new jobs and return the region to economic vitality as expeditiously as possible. At the same time the Plan seeks to balance development with the protection and enhancement of natural resources and establish Fort Monmouth as a model for holistic sustainable redevelopment. The Plan proposes the attraction of high technology industries; development of mixed-income neighborhoods; creation of mixed-use, neighborhood centers in each of the Boroughs; provision for enhanced mobility; and the creation of an extensive open space network of ecological and recreational parks. The mix of proposed uses was determined based upon extensive market analysis, development of a robust economic revitalization strategy, and continuous dialogue with the State of New Jersey, Monmouth County, Eatontown, Oceanport, Tinton Falls, and special interest representatives. The Plan results in an opportunity to best balance the needs of all interested parties into an achievable vision for Fort Monmouth's future.

Land Use

The mix of land uses proposed in the 20-year Plan is presented in the table on page 3-12. The mix, while focusing on high technology industry attraction, is deliberately broad to accelerate redevelopment and provide for the creation of a broad range of jobs and housing typologies

to meet the needs of a demographically diverse population left behind by the relocation of the mission. The inclusion of office, research and development, business service, incubator business, light manufacturing, retail, market rate and affordable housing, homeless housing, and civic/institutional space reflects FMERPA's commitment to diversity and the need for short, medium, and long-term economic opportunity.

The Plan reflects the redevelopment of five development clusters within the Fort Monmouth reuse and redevelopment area. In response to infrastructure availability and increasing ecological sensitivity, the highest intensity of development is proposed to occur in the Charles Wood area of Tinton Falls, with a reduction in density across the Fort from west to east. Within this density transect each cluster of development is proposed to be mixed-use in nature providing for job creation, residency, entertainment, and recreation, and thereby promoting healthy lifestyles where residents can choose to walk or bicycle to work and shop. The mixed-use centers are set within an extensive Blue-Greenbelt open space network that comprises approximately 45% of the Fort's land area.

The land use program seeks to leverage the Fort's existing architectural and infrastructure assets as one of the tools to accelerate reuse and redevelopment. Over two million square feet of non-residential and approximately nine hundred thousand square feet of residential buildings are proposed for adaptive reuse. Many of these assets are historic resources, but more importantly many of the structures are enhanced by high-tech infrastructure and highly specialized research and communications equipment making them attractive for reuse in the early phases of plan

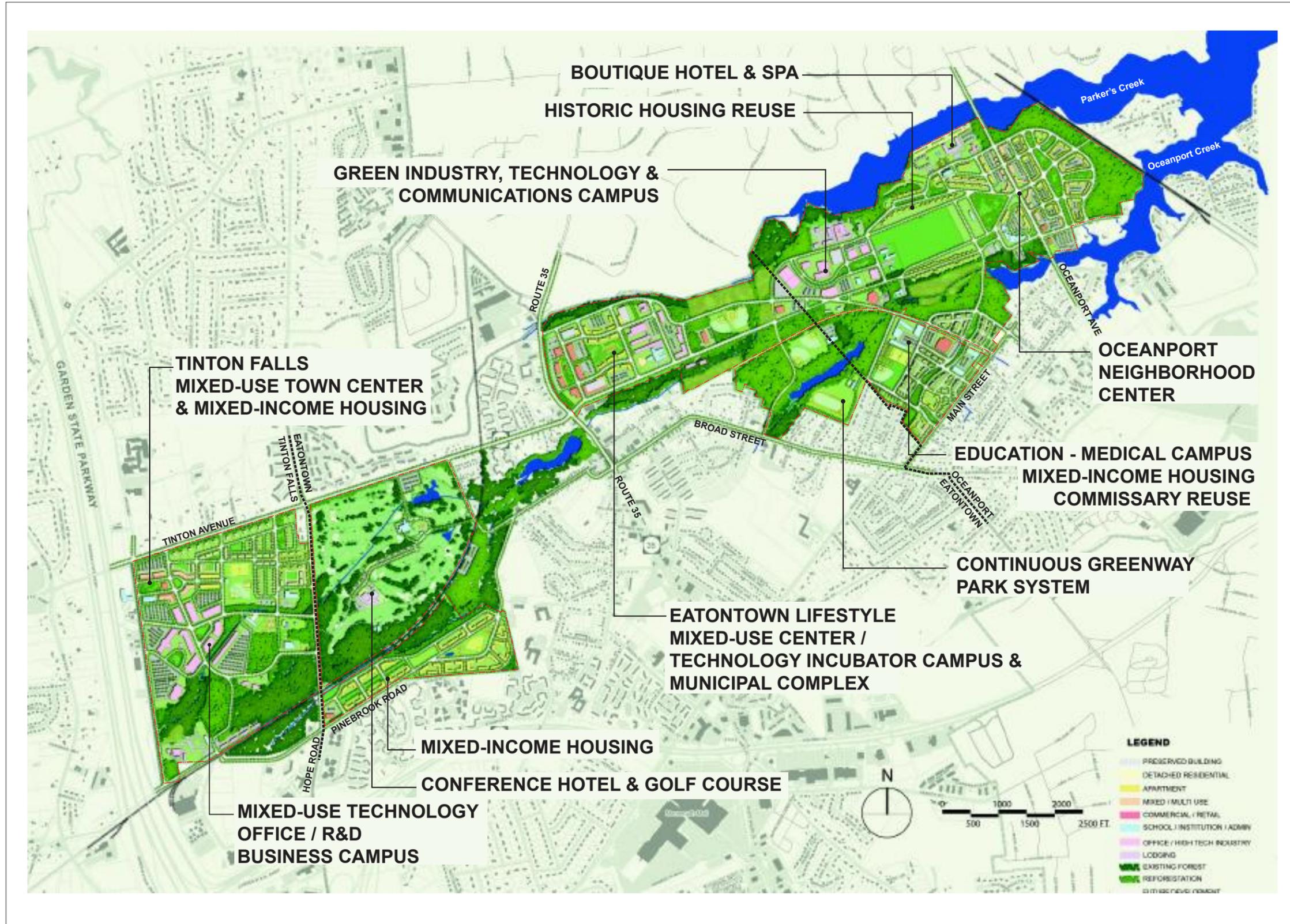
implementation. Refer to page 3-12 for the reuse and redevelopment program summary.

Land Use Allocation

Description	Acres	Percentage of Site
Recreation/Open Space	503.52	44.74%
Commercial Office/High Tech/R&D	105.54	9.38%
Business Services/Retail	35.20	3.13%
Hospitality/ Conference Center	16.02	1.42%
Government/Civic/Institutional	51.78	4.60%
Residential/Mixed-Use	151.61	13.47%
Educational	19.82	1.76%
Medical/Health Care	2.89	0.26%
Roads & Right-of-Ways	241.98	21.50%

The following illustrate the preliminary Key Area Plans developed within the three Borough Reuse Areas. Key Area Plans are close-up, more detailed views of certain land use areas that are viewed as either particularly important to the Plan or key components to the area's growth.

The Area Plans and their development programs have evolved throughout the planning process as a result of public and stakeholder feedback obtained from the Final Draft Plan presentation, mitigation measures identified for the purpose of offsetting potential impacts, refinement of community impacts and revenue sharing strategies, and the iterative nature of the planning process in general.



FORT MONMOUTH CONCEPT PLAN CONCEPT PLAN IN 2028 (20 - YEAR PLAN)

FMRPA
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4.2 Key Area Plans

TINTON FALLS REUSE AREA

Tinton Falls Town Center

The major redevelopment node located within Tinton Falls is a mixed-use retail town center, professional office/research and development and residential neighborhood organized around public open spaces located south of Tinton Avenue. This mixed-use town center provides an extension of the existing Tinton Falls Municipal Center located immediately to the west of the Tinton Falls Reuse Area. This two block mixed-use civic square is comprised of up to 80,000 square feet of convenience retail, shops, restaurants, and professional offices, with potential for above-retail apartments. This new mixed-use town center would link the employment center with the Borough's Municipal center to the west and proposed residential neighborhood to the east. The southwest corner of the square is proposed to be set aside for the future development of a 27,000 square foot Tinton Falls Public Library. Those within an approximately one-quarter mile radius would be treated with an array of amenities within walking distance.

This 2.5 acre civic square is intended to be used as a passive recreational area, an area for community events such as a farmers market, nighttime summer music, and outdoor theatrical events.

Mixed Income Residential

The transition from the mixed use node to the adjacent residential area to the east progresses with tree lined streets reaching towards the neighborhood's recreational area. This 12 acre park is home to the neighborhood's Field House, ballfields and playgrounds. A neighborhood of 288 mixed-income residences are planned surrounding the park. Along Tinton Avenue, behind the tree lined greenway fourteen (14) large lot detached homes are planned in keeping with the character across the scenic street. The remaining homes include reuse of the attached twenty-two (22) unit Hemphill residences, thirty-nine (39)

small lot detached homes, eighty-three (83) townhouse/rowhouses, and one hundred thirty (130) 3-story apartments. Access to the other sections of the Tinton Falls Reuse Area is also afforded by an easy stroll to the jitney stop, which also leads to connections beyond the Reuse Area's "boundary line."

High Tech Industry

The central feature of the Office/High Tech Industry node is the reused Myer Center, transformed into a modern multi-tenant corporate facility that may potentially house a financial/insurance company data recovery center, general office space, and technological communications research and development companies. The Myer Center is proposed to be modified as three separate facilities to enhance absorption and make it more operationally efficient. Additional study would be required in future phases of development as potential tenants are identified. The business center provides a mix of Class A general office space, high-tech research and development space, and incubator space in new and renovated buildings. In combination with the proposed reuse of Building 2525 and future construction, a total of 839,817 gross square feet is envisioned. This reuse node is expected to serve as one of the primary economic engines for the Reuse area, generating tax revenue and employment opportunities.

This reuse node is also complemented by a central green within an open courtyard. Tree lined roadways and an interconnected sidewalk system also link the area to the general Reuse Area and provide a pedestrian friendly character throughout. Extensive parking areas are also provided adjacent to the Garden State Parkway, taking advantage of existing impervious surface area and infrastructure. These parking areas are recommended to have landscape islands incorporating shade trees and bio-swales at 120 foot spacing throughout the lots.

Fire & Police Training Center and the Fabrication Shops

In the southwest quadrant of the Tinton Falls Reuse Area the existing fire and police training facilities are proposed to be conveyed for their continued use in training State, county, and local firefighters and law enforcement officers. The metal fabrication shops, Buildings 2502 – 2507, located along the railroad right-of-way are ideally suited to private sector company reuse and comprised of 42,752 square feet in five structures.

Civic Uses and Public Open Space

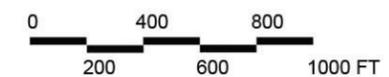
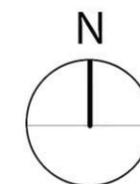
The existing civic uses along Hope Road are proposed to remain and include the Early Child Development Center, Pool and Park Complex, and the Teen Center converted to a community recreation center. All development areas within the Tinton Falls Reuse area are proposed to be connected to a continuous 99-acre greenbelt. The greenbelt is part of the Fort-wide "Blue-Green" belt system of parks and open space. It would serve as a passive and active recreational amenity and serve the function of preserving and protecting the wetland resources in this area of the Fort. Approximately 22 acres of active recreation, 77 acres of passive recreation and 3.25 miles of trails in Tinton Falls.

The bicycle and pedestrian trail network would enable the public to engage nature while offering modal choices that enhance mobility throughout this live-work-play development cluster. During the redevelopment process further investigation of enhancing and restoring habitats, integrating stormwater best management practices, and creating program linkages to area public schools should be explored.



TINTON FALLS AREA PLAN ENLARGEMENT

1. Large Lot Detached Housing
2. Small Lot Detached Housing
3. Townhouse
4. Mixed-Income Apartments
5. Hemphill Housing
6. Firehouse
7. Mixed-Use Town Center, Bandshell & Town Green
8. Library
9. Child Care
10. Municipal Use
11. Teen Center
12. Myers Center Reuse
13. Mixed-Use Technology Business Campus
14. Fire & Police Training Center
15. Fabrication Shops
16. Gas Station
17. Pool
18. Field House & Ball Fields
19. Wetland Preservation Park
20. Pulse Power Building R & D
21. Existing Tinton Falls Municipal Complex
22. Geothermal Wells





Artistic Rendering of Tinton Falls Community Center

Artist: Thomas W. Schaller

EATONTOWN REUSE AREA

The western portion of the Eatontown Reuse Area is composed of two Key Areas: the Suneagles Golf Course and associated facilities and the former Howard Commons residential area to the south.

Golf Course and Conference Facilities

As previously discussed, the existing golf course (approximately 129 acres) is to be preserved due to its historic and cultural value. The area would also remain as open space as a result of a perpetual easement requested by Monmouth County through an NOI or another mechanism. The golf course is proposed to remain a public facility and would provide perpetual access to retired veterans who currently enjoy the facility. Gibbs Halls (B2000) would also be retained as a Clubhouse/Pro-shop and would be used as part of the conference and banquet facility. This facility already operates as a dining/catering facility; however, due to the age and condition of the equipment, extensive improvements would likely be required to meet current market demands and improve the capacity of the dining facility. The 150 room hotel and conference center is located on the site of the Megill Housing neighborhood. The facility would be geared toward guests for longer stays and those on business retreats. The unique setting within the Suneagles golf course in combination with a 20,000 square-foot conference and meeting facility would differentiate it in the marketplace. Local transit services should be provided to the New Jersey shore, area parks, and the proposed Oceanport boutique hotel, spa and wellness center.

Mixed Income Housing

The Howard Commons reuse area is intended to provide mixed-income housing, with an emphasis on affordable and workforce housing, for civil servants such as fire and safety and education professionals. This Residential node is focused on attracting income-restricted residents through the

provision of higher density housing units that would also help Eatontown meet COAH requirements generated by the Fort's redevelopment. The 275 units would include apartment style housing along a linear green space. Convenience retail (12,530 sf) would also be provided to the west.

Located to the east of the lifestyle center, a total of 302 mixed-income apartments are envisioned to take on several different formats: above retail small apartments, and 3-story apartment buildings. A total of 577 mixed-income housing units are proposed in Eatontown.

Lifestyle Center/Eatontown Gateway

The design intent of the Lifestyle Town Center located along Route 35 is to create an exciting gateway to the eastern Reuse Areas. This major town center is envisioned as a multi-use area that serves the residences located in proximity to the area as well as the population beyond due to the center's accessibility along Route 35. The center includes 150,000 square feet of retail, restaurants, entertainment venues, residences, and other uses in a "lifestyle format" that creates a vibrant pedestrian environment. The retail may be comprised of a mix of national, regional and local retailers, boutiques, restaurants and a specialty food market in a "Main "Street" format. Shared parking for the retail and adjacent mixed-income apartments is proposed to be located over the existing geothermal field. All development within this node is proposed to preserve the geothermal fields through the location of open space or surface parking over the fields..

Eatontown Municipal Center

The 57,386 square foot Mallette Hall (B1207) with its auditorium and outdoor amphitheater are proposed as the new home for the Eatontown Municipal Complex. Given the anticipated redevelopment of the existing downtown and the desirability of municipal functions being at the center of the Post's redevelopment, this use would contribute to the vitality of the node.

Professional's Row and Incubator Business Center

The CECOM Labs (B1208, 1209, 1210) totaling 345,122 square feet are proposed for two reuse purposes: provision of incubator office space and a professional's row in approximately even measures. The incubator office space supported by State of New Jersey initiatives and programs would offer an ideal location for start-up companies as they develop their businesses. The Professional's Row is envisioned as a desirable location for the county's growing professional service industry including architects and engineers, legal professionals, and financial and accounting practices among others. Projected future growth of these industries and incubator businesses may be met through the development of new facilities east of the CECOM labs on the edge of the central park. A total of up to 140,000 additional square feet of additional office/R&D space may be realized over the 20-year build out.

Specialized Reuse Buildings

Vail Hall (B1150, 1152), located to the south of Mallette Hall, currently operates as the communications hub for Fort Monmouth. Future reuse is anticipated to take advantage of the specialized communications infrastructure and be attractive to the communications industry including potential reuse by wireless service providers.

Building 1215, the theater building, with its auditorium and 18,883 square feet of space, may be suitable for a not-for-profit theater or arts group. Further investigation of its reuse potential is warranted. The "state of the art" Bowling Center is located along the common border with Oceanport and is proposed to remain a privately operated bowling alley.

Public Open Space

To the west of the Lifestyle Incubator Business Center extending to the Oceanport borough line, a central park of more than 100-acres is proposed. The park includes both active

recreation fields and passive areas for strolling, biking and enjoying nature.

The bikeway and pedestrian trail system would traverse the park connecting adjacent residential, commercial and retail zones to promote mobility. Additional trail connections to the existing downtown and area parks should be explored by the municipality.

The landfill to the north edge of the park is proposed to be clean up to recreational standards in accordance with NJDEP guidelines. The passive areas play an important role in re-establishing the ecological function and productivity by reconnecting the Parker's and Oceanport Creek tributaries across the Post. Reforestation and specialized habitat typologies along with wetland buffer enhancement should be incorporated into the parks design at later stages of redevelopment.

All post open spaces should be designed to include best management practices for the treatment of stormwater including bio-infiltration and recharge as well as constructed wetland filters to enhance water quality and protect groundwater resources.

A total of 314 acres of public open space is proposed in Eatontown, including the golf course. Approximately 31 acres of active recreation, 154 areas of passive recreation and 7 miles of trails are proposed.

EATONTOWN: HOWARD COMMONS AREA
PLAN ENLARGEMENT

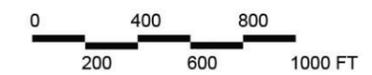


1. Suneagles Golf Course
Main Entrance & Parking
2. Gibbs Hall - Clubhouse & Catering
3. Conference Center & Hotel
4. Restaurant
5. Ball Fields
6. Convenience Retail
7. Mixed Income Housing
8. Community Center & Pool
9. Wetland Preservation Park



EATONTOWN: ROUTE 35 AREA PLAN ENLARGEMENT

- 1. Lifestyle Town Center
- 2. Mixed-Income Apartments
- 3. Parking Structure
- 4. Incubator & Professional Services
- 5. Eatontown Municipal Building
- 6. Office Space
- 7. Auditorium / Theatre
- 8. Bowling Center
- 9. Cell Tower
- 10. Amphitheatre
- 11. Ball Fields / Recreation
- 12. Wetland Preservation Park
- 13. Office / R & D Space
- 14. Local Bus to Jitney Transfer Station
- 15. Geothermal Field





Artistic Rendering of Eatontown Lifestyle Center

Artist: Thomas W. Schaller

OCEANPORT REUSE AREA

High-Tech and Green Industry Campus

The High Tech and Green Industry Campus located in the central portion of the Reuse Area and the westernmost portion of the Oceanport Reuse Area, includes R&D facilities where cutting edge research and development activities can take place, furthering the State of New Jersey's initiative to promote sustainability, renewable energy, and attract biotechnology and nanotechnology companies to Fort Monmouth. A total of 400,000 square feet of high-tech R&D space is proposed at build out. This campus provides an opportunity to leverage existing high tech facilities, infrastructure, and the intellectual capital of a skilled area work force.

The intention of the Green Industry campus is multi-purpose:

- To serve as an educational showpiece
- To provide the Reuse Area with a source of green/renewable energy
- To provide a space for research and development activities, further supporting NJ's High-tech Economic Development initiatives
- To leverage existing intellectual capital in area to further the development of sustainable energy technologies

This campus is to become the area's main knowledge center. The campus would leverage the high tech infrastructure already existing within the McAfee Center (B688) and would capitalize on the civic amenities afforded by the library and recreation center. The 97,000 square foot McAfee Center is proposed to be adaptively reused by a high-tech communications research company who can employ the highly specialized equipment. The building is a skiff and contains an anechoic chamber for specialized radio frequency research.

Squier Hall (B283) at 76,583 square feet is currently used for administrative purposes, is suitable for similar reuse, and is readily adaptable to educational purposes. To the south of the technology cluster, Armstrong Hall (B551) presents another opportunity for educational reuse or the potential for an environmental center. Programs to educate visitors as well as the undertaking of environmental/ecological research experiments in the adjacent tidal and terrestrial areas could be envisioned.

Existing in-kind building reuse is proposed for the Library (B502), Chapel (B500), the Counseling Center (B501), and Fitness Center (B114). A linear central park provides a front for all of the buildings in the cluster and provides a greenway linkage between the Parade and the perimeter Blue-Greenbelt open space system.

Historic Oceanport Neighborhood Center

The vision for the Oceanport Historic Housing area is the preservation of historic housing to showcase the cultural value and history of the post. The housing flanking both sides of the Parade Ground is a contributing element to this historic district and is worthy of reuse in today's residential market. The Parade Ground would continue to provide a central expanse of green space and character-defining feature of the Historic Housing Neighborhood. Although no permanent structures are to be placed on the Parade Ground, the large open space would be used for active recreation such as youth sporting league games and special events.

A total of 117 historic residential units are proposed for reuse in the Historic Main Post area. The 45 Gosselin residences have been identified for potential university faculty and married student housing. Gardner Hall (B271) is suitable for mixed-income apartments. The spacious 68 Russel/Allen and Russel/Carty residences at 3,700 to over 6,000 square feet would be attractive to the for sale, single-family, high-end home buyer.

Limited improvements would be done on the historic housing due to the restriction on alterations to the structures. Narrow tree lined streets would continue to provide character to

the area and provide connections to the larger Reuse Area. The natural areas alongside the housing would remain and would be reforested as appropriate.

Three of the Barker Circle buildings (B205, 207, 287) are proposed for reuse as mixed-income housing, while the remaining two buildings (B206, 208) are proposed for a new Oceanport Municipal Center adjacent to the firehouse. With the addition of a large meeting room a total of 50,000 square feet of space could be made available.

Russell Hall (B286), the 76,978 square foot Garrison Headquarters located at the eastern end of the Parade, would be conveyed to FEMA for their headquarters. A total of 8 acres have been requested including the parking lot and heliport located adjacent to the building.

Parker's Creek Boutique Hotel and Spa

A unique boutique hotel and wellness spa is envisioned along Parker's Creek. This boutique 75 room hotel and spa would include limited lodging facilities oriented toward those looking for a restorative getaway in a luxurious setting. The area is a complement to the medical campus to the south, further acknowledging the contribution of nature and outdoors to human health.

Public access to the waterfront would be maintained and encouraged by shoreline improvements and a riverfront promenade. The promenade would encourage bird watching and nature observation as well as fishing. Docking and direct access to the water would not be provided.

Education/Medical Campus

The Patterson Army Health Clinic is proposed to be replaced with a new 60,000 square foot joint veterans and community health care clinic. The new clinic would be supported by a 20,000 square foot professional medical office building with the potential addition of professional medical offices to create a "wellness campus" totaling 80,000 square feet. This medical campus would provide services to area veterans and residents. The center

would also be improved to allow for medical research activities. During the next phase of work, additional analysis of the reuse feasibility of the clinic should be explored. The extensive green space would be preserved and improved, acknowledging the contribution of the natural element to wellness.

The Educational component includes a 15 acre site for future school development to meet Oceanport's needs. The site is sized to accommodate between 400 and 450 students complete with academic space, parking, ballfields, tennis courts, and flexible outdoor recreational space.

Residential

Townhouses and small lot detached residences are proposed in the area of the school to complement existing Main Street residences south of the Post. A total of 159 townhouses and small cottage type homes are proposed on lots ranging from 3,000 to 7,500 square feet.

Public Open Space

In addition to the proposed school's active recreational element, a linear greenway connects the Educational Medical Campus and residences to the Fort wide Blue-Greenbelt system and the nearby track and football complex.

Oceanport Village Center

The traditional Main Street town center is located along Oceanport Avenue and provides an additional opportunity for the creation of a gateway into the Reuse Area. This gateway area includes a smaller scale walkable Main Street, with vehicular access provided by Oceanport Avenue. Constructed of traditionally scaled blocks and lined with a mix of specialty and convenience retail, restaurants, small professional offices, and potentially art galleries, Oceanport Avenue would be transformed into the civic hub of the Borough. The existing Credit Union is proposed to remain and the southern end of the avenue anchored by a new waterfront restaurant adjacent to the public boat ramp and marina. Single rows of trees would line

the streets activated by the first floor retail and outdoor cafes. This small scale walkable village would be inviting to local start up businesses and cafes. The opportunity for an upscale organic restaurant to be located at the western edge exists where it would be afforded a grand view of the vast green space to the west.

Enhancement of the marina is proposed to incorporate a public promenade and gateway pocket park just east of the bridge over Oceanport Creek. The public boat ramp and parking areas are proposed to remain and the marina support facility enhanced.

Oceanport Village Center Residences

To achieve a traditional two to three story Main Street character, mixed-income apartments are proposed above the Oceanport Avenue retail uses. To the east of the Avenue, nine blocks of 3 story mixed-income apartments are proposed within a generous greenway framework. A total of 309 units are proposed with parking located internal to the blocks. Finished floor elevations in this area of the redevelopment would require additional analysis to ensure they are constructed above the floodplain. A total of 740 residential units are proposed in Oceanport in the current plan.

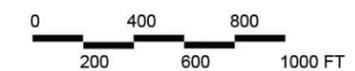
Public Open Space

A total of 173 acres of public open space is proposed in Oceanport Borough. Approximately 28 acres of active recreation, 145 acres of passive recreation, and 7 miles of trails are proposed. A significant portion of this open space is proposed to be developed as ecological buffers to Parker's and Oceanport Creeks and in keeping with CAFRA regulations. These buffers would be critical to the protection of water quality and habitats along the creek's edges. Residences proposed east of Oceanport Avenue have been set back significantly from the creeks in response to the FEMA mapped 100 year floodplain creating a significant buffer between the Horseneck Point residences and the proposed development.



OCEANPORT MAIN POST AREA PLAN ENLARGEMENT

1. Small Lot Detached Housing
2. Mixed-Income Apartments
3. Townhouse
4. Historic District Housing
5. Boutique Hotel & Spa
6. Parade Ground
7. Retail & Professional Office
8. Credit Union
9. Marina, Restaurant & Public Boat Ramp
10. Oceanport Municipal Complex & Mixed-Income Apartments
11. FEMA Office & Property
12. Green Industry Campus
13. Chapel
14. Fitness Center
15. Museum / Art Center
16. Retail Center
17. Medical Center & Medical Offices
18. New School
19. Ball Fields
20. Lane Hall Community Center
21. McAfee Center Reuse / Communication R & D
22. Library
23. Day Center
24. Allison Hall Offices
25. Office Educational Reuse
26. Educational Reuse
27. Waterfront Esplanade
28. WWII Barracks - Retail Reuse
29. Permanent Supportive Housing
30. County Shelter
31. Wetland Preservation Park
32. Geothermal Wells
33. Cell Tower





Artistic Rendering of Oceanport Avenue

Artist: Thomas W. Schaller

4.3 SUSTAINABILITY

The Fort Monmouth Opportunity

The redevelopment of Fort Monmouth presents an unprecedented opportunity in the State of New Jersey to develop a model sustainable technology community. Sustainable developments are those which fulfill present and future needs (WECD, 1987) while only using and not harming renewable resources and unique human-environmental systems of a site: air, water, land, energy, and human ecology and/or those of other off-site sustainable systems (Rosenbaum 1993 and Viera 1993). The redevelopment of Fort Monmouth, consistent with state of the art sustainable practices, provides the opportunity to advance the State's sustainable policies and capitalize on the robust green building toolbox available through New Jersey State Agencies.

State policies and programs are evolving and remain very dynamic in nature with new programs being developed continuously. Governor Corzine has placed global warming and energy issues at the forefront noting they are not just problems to be solved, but also that there is an economic opportunity to be capitalized upon. In conjunction with an energy use reduction goal of 20 percent by 2020 and the development of the State's Energy Master Plan in 2007, the Governor signed Executive Order 54 calling for a 20 percent reduction in greenhouse gas emissions to 1990 levels by 2020 and an 80 percent reduction of 2006 greenhouse gas levels by 2050. The goals are linked to New Jersey's Renewable Portfolio Standard adopted by the New Jersey Board of Public Utilities (BPU) that requires 20 percent of the State's electricity come from renewable sources by the year 2020. Along with the BPU program, many of the State's agencies, including the New Jersey Department of Environmental Protection (NJDEP), Housing and Mortgage Finance Agency (HMFA), New Jersey Department of Transportation (NJDOT), and the New Jersey Department of Community Affairs (NJCA), offer a variety of financial incentives in the form of grant

and loan programs that support sustainable community development.

NJDEP's Office of Planning and Sustainable Communities (OPSC) defines a sustainable community as one that manages and stewards its natural resources and environmental assets such that their value is preserved, restored, and enhanced for present and future generations; and such stewardship complements the community's effort to foster economic and social health. A listing of programs offered by OPSC is provided below and additional information about the programs can be accessed at www.nj.gov/dep/opsc.

New Jersey Department of Environmental Protection

- Green Acres Grants and Loans
- Green Communities Challenge Grant Urban & Community Forestry Program
- Shore Protection Grants and Loans
- Recreational Trails Development & Maintenance
- Historic Preservation Certified Local Government Grants (CLG)
- 1992 Dam Restoration and Inland Water Projects Loan Program
- Environmental Infrastructure Financing Program
- Pinelands Infrastructure Trust Financing Program
- Combined Sewer Overflow Planning & Design Grants
- Drinking Water State Revolving Fund Program
- Municipal Recycling Tonnage Grant Program
- Solid Waste Services Grants
- Local Tire Management Program Fund Grants

- Nonpoint Source Pollution Control and Management Implementation Grants
- Water Quality Planning Pass-Through Grant Program
- Hazardous Discharge Site Remediation Fund (HDSRF)
- New Jersey Clean Communities

Other State Agency Programs

- Board of Public Utilities (BPU) - Clean Energy Funding
- Department of Agriculture - Farmland Preservation
- Department of Community Affairs - Smart Growth Planning
- Department of Community Affairs "HMFA Green Future & SUNLIT Programs"
- Department of Transportation "Transit Village Initiative"
- Safe Routes to School Program
- The Regional Greenhouse Gas Initiative (RGGI or "ReGGie")

A Comprehensive and Integrated Sustainability Approach

Fort Monmouth's 1,126 acres and approximately five million square feet of buildings located between ecologically sensitive Parker's and Oceanport Creeks, with existing alternative geothermal energy infrastructure and adjacency to regional transit, presents an exciting opportunity to create a comprehensive and integrated approach to sustainable development. The consulting team recommends that during the next phases of plan implementation, further consideration of establishing measurable guidelines for sustainable development be explored. These guidelines may include recognized US Green Building Council's (USGBC) Leadership in Energy and Environmental Design (LEED) rating

standards potentially including LEED for New Construction, LEED for Commercial Interiors, and LEED for Existing Buildings. The USGBC is developing future programs that may be available before 2011 including LEED for Neighborhood Developments (LEED-ND), LEED for Homes, LEED for Schools, Retail, Healthcare, Laboratories, and Multi-building Campuses.

While LEED is the currently accepted standard by which green development is measured, best management practices are evolving beyond LEED. The Fort Monmouth Reuse and Redevelopment Plan embraces smart growth principles and endorses the adoption of Transit Oriented Development (TOD) principles within recognized capital and policy constraints. As the plan evolves, there are ten broad focus areas that should be considered in developing sustainability guidelines for redevelopment. The focus areas include:

1. Site Planning and Landscape
2. Stormwater Management
3. Air Quality
4. Infrastructure
5. Energy
6. Transportation and Connectivity
7. Green Buildings and Reuse
8. Community and Quality of Life
9. Construction Management
10. Operations and Maintenance

In adopting a comprehensive approach, Fort Monmouth can promote and advocate for best management practices, including environmental remediation, ecological restoration and protection, green infrastructure, architectural design, construction, and site planning, as well as the ongoing sustainable management of these buildings. The land use plan envisions the development of a mixed-use community that includes high-tech and general office space, residential, retail, school, hotel, convention center, community space, open space, and access to transit alternatives. The following Sustainable Strategies Summary Matrix identifies vision statements, potential

strategies, and sample goals to address each of the ten focus areas identified above.

The development and adoption of sustainability guidelines should be undertaken by the implementation LRA as the project moves forward, as well as a thorough and measured analysis of market receptivity, life cycle costs, and benefits.

SUSTAINABLE STRATEGIES MATRIX

Focus Area	Vision	Potential Strategies	Potential Goals & Targets
Site Planning and Landscape	Fort Monmouth will be a mixed-use, compact, clustered, and walkable community. The build-out will include massing and orientation of built structures to create quality open spaces, frame access and views and optimize passive solar design. The clustered design will be linked by a Blue-Greenway network of open spaces that interconnect the creeks with existing and new open space between the Garden State Parkway and Horseneck Point to create a continuous ecological resource and multi-purpose trail network. Reforestation of significant portions of the property is recommended to enhance habitat diversity and connectivity and enhance carbon sequestration.	S-1 Landfill Remediation & Phyto-Remediation S-2 Waterfront Climate Adaptation S-3 Wetland Preservation & Restoration S-4 Mixed-Use Land Use Clustering S-5 Interconnected Open Space Plan S-6 Green Infrastructure Streetscape Design S-7 Multi-modal Site Circulation S-8 Density Ratio Enhancement S-9 Native Plant, Water Efficient Landscaping S-10 Biodiversity Strategies S-11 Reforestation – Carbon Sequestration S-12 Habitat Enhancement S-13 Designed Experimentation	<ol style="list-style-type: none"> 1. Landfill reclamation will be done on-site with in-situ remediation schemes utilizing phyto-remediation, along with NJDEP approved capping strategies. 2. At least 1,500 residential units will be developed on the site at an average density of 4 dwelling units per acre. 3. 75% or more of the project’s blocks will be designed for appropriate solar orientation. 4. A minimum of 45% of the site will be allocated to open space. 5. The site will be developed as a pilot study for sustainability, flood control system, and a native plant center. 6. The site will be integrated with the Parkers & Oceanport Creek estuaries and existing park network. 7. The existing wetlands at Fort Monmouth will be preserved and enhanced and buffers established. 8. Fort Monmouth will integrate appropriate climate adaptation strategies to address sea level change and other climate issues. 9. Employ conservation easements and deed restrictions to protect open space and ecological resources.
Stormwater Management	Fort Monmouth should utilize progressive, sustainable, and robust water management practices that are fully integrated into the site, neighborhood and adjacent land uses. High quality open spaces will provide ecosystem services such as stormwater retention, water filtration and urban cooling through shade vegetation. The Suneagles Golf Course presents an opportunity to address stormwater and dam issues in the western portion of the fort. The system will be designed to include collection, sequential treatment, storage and on-site reuse, capable of handling future climate scenarios and adaptable for continued monitoring and upgrades.	SW-1 Erosion & Sedimentation Control SW-2 Controlled Paving Strategies SW-3 Stormwater Runoff & Water Quality SW-4 Water Recycling & Reuse SW-5 Flood Control SW-6 Stormwater Adaptive Management	<ol style="list-style-type: none"> 1. Develop erosion control strategies utilizing bioengineering approaches and temporary detention basins 2. Increase the scale of the constructed hydrology & habitat system to 1.5 times the current size for flood treatment and control 3. Implement a comprehensive stormwater management plan that infiltrates, reuses, or evapo-transpires runoff from small storms (or 90% of all storms) 4. Treat 100% of stormwater collected from these storms on-site via constructed wetlands and other stormwater treatment systems 5. Recycle 25% wastewater to be used for irrigation and other appropriate uses
Air Quality	Air quality at Fort Monmouth may be improved by promoting cleaner fuels for on-site energy generation, controlling transport emissions, implementing vehicle reduction strategies, and planting an abundance of trees. Best practice technologies and sustainable management plans will address air quality issues during the design, construction, operation and maintenance stages of Fort Monmouth redevelopment.	AQ-1 Tree Planting Initiative & Reforestation AQ-2 Air Quality Monitoring AQ-3 Building Emissions AQ-4 Transportation Emissions AQ-5 On-Site Power Generation Emissions	<ol style="list-style-type: none"> 1. Undertake a tree planting-reforestation program 2. Install an air quality monitoring program 3. Construction and Maintenance Vehicles will be low emitting 4. Energy systems and components will be Energy Star compliant 5. Renewable or Alternative Fuels for Power Generation will be used

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Energy	An energy master plan should determine the strategy for Fort Monmouth to meet its own energy demands and reduce dependence on the electrical grid. Energy generated on-site will be sourced from cleaner and alternative fuels and renewable technologies. The attractions of green industries including Photo-voltaic and Hydrogen Fuel Cell companies working within a closed loop system presents a unique opportunity. Energy loads from buildings and infrastructure will be reduced through design and coupled with optimized energy management, will lower the overall carbon footprint.	E-1 Energy Master Plan E-2 Integrated Design E-3 District Heating & Cooling E-4 On-Site Energy Generation E-5 Combined Heat & Power E-6 On-Site Renewable Energy E-7 Green Power E-8 Peak Shaving E-9 Infrastructure Energy Efficiency E-10 Greenhouse Gases & Carbon Footprint	<ol style="list-style-type: none"> 1. Develop on-site energy generation system with the capacity to supply all of the annual electrical and thermal energy consumption. 2. Incorporate on-site renewable energy technologies to provide a minimum of 5% electrical and 25% thermal consumption. 3. A minimum of 5% of any electricity purchased from the utility will be supplied by Green Power. 4. Incorporate a district heating and cooling system that will connect to all buildings and meets 100% of the thermal load.
Transportation and Connectivity	Fort Monmouth will be connected to all activity centers within the site and to the surrounding communities, by emphasizing walking, cycling, and encouraging the use of public transit. A proposed Shuttle Bus will link all areas of the Fort to regional rail service and the potential for rail station development in the Charles Wood Area should continue to be explored. Pedestrian-oriented streets and a continuous bicycle network will reduce vehicle-dependency and promote a healthy lifestyle.	T-1 Transportation Demand Management Plan T-2 Pedestrian-Oriented Streets T-3 Bicycle – Multi-Purpose Trail Network T-4 Promote Electric Vehicle Use T-5 Parking Control T-6 Shared Parking T-7 Shuttle Bus, Van, & Car Share Programs T-8 Promoting Public Transit	<ol style="list-style-type: none"> 1. All residents, employees and visitors to Fort Monmouth will be within a 10-minute walk of public transportation. 2. Bicycle routes will connect throughout the entire site and extend to existing and proposed bicycle networks. 3. Bicycle parking will be provided throughout the site. 4. Shared parking will be employed throughout the Fort. 5. Carpooling, car sharing, fuel efficient vehicles, and NEV's will be given priority parking. 6. A shuttle bus will connect enhanced public transit systems surrounding the Fort with all development clusters. 7. Existing street networks will be extended through the fort to enhance mobility and relieve congestion.
Green Buildings	All buildings at Fort Monmouth should be designed to the highest green building standards, integrating best management practices and LEED criteria. Design will pay particular attention to acoustics, improved indoor environmental quality, daylighting, and energy and water efficiency. All buildings should be commissioned to ensure optimum system performance. A showcase building, open to the public, will demonstrate the sustainability features implemented.	GB-1 LEED Certification GB-2 Building Orientation GB-3 Universal Accessibility GB-4 Daylighting GB-5 Energy Performance GB-6 Green Roofs GB-7 Indoor Environmental Quality GB-8 Acoustics GB-9 Building Materials GB-10 Water Efficiency & Wastewater Management GB-11 Commissioning GB-12 Sustainability Showcase Building	<ol style="list-style-type: none"> 1. Maximize the adaptive reuse of existing buildings and infrastructure. 2. At least 40% of the square footage of buildings should be LEED Silver certified and 10% LEED Gold certified. The remaining buildings should meet the equivalent of LEED certified standards. 3. At least 75% of the stand-alone building frontages will be designed & oriented for optimal solar orientation. 4. A modeled energy performance target of at least 20% or better will be achieved for residential buildings and 25% or better for commercial and institutional buildings. 5. Buildings must maximize daylighting for at least 95% of all occupied spaces, 75% of interior spaces, and views for 90% occupied spaces. 6. Source 20% of the building materials with recycled content and 20% of the materials locally. 7. Specify 50% Forest Stewardship Council (FSC) certified wood for all interior finish woodwork. 8. Specify rapidly renewable materials for 5% of the total value of building materials. 9. At least 50% of the exposed new building roof areas should be green roofs. 10. Buildings will meet the following criteria for water and wastewater: Consume 50% less potable water, treat 100% of the wastewater on-site for 75% of the buildings, recycle at least 50% of the grey water from buildings

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Construction Management	During construction, Fort Monmouth will be a safe, clean, and environmentally responsible site that demonstrates progressive and sustainable construction best management practices with regard to energy use, air and water pollution, and construction waste. Construction activities will be sensitive to the local ecology and surrounding neighborhoods.	CM-1 Energy & Water Use CM-2 Construction Waste Management CM-3 Low-Emitting Construction Vehicles CM-4 Sustainable Wood in Temporary Construction Practices CM-5 Environmental Training CM-6 Air, Water, & Noise Pollution CM-7 Ecology in Construction Zone CM-8 Site Cleanliness CM-9 Communication & Community Involvement	<ol style="list-style-type: none"> 1. Monitor, report and target CO2 emissions arising from construction activities. 2. Separate and recycle demolition debris and reuse on site. 3. Divert 90% of construction and demolition waste from landfills. 4. Train all site personnel on sustainable development issues. 5. Utilize energy efficient construction and site equipment. 6. Operate a clean and considerate construction site.
Operations and Maintenance	Fort Monmouth will be managed by trained operation and maintenance staff who are familiar with green building systems, cleaning products, materials, and equipment to ensure a safe and clean environment. Waste will be reduced through the implementation of recycling and composting initiatives. Residents and business owners will be guided with a manual on day-to-day indoor sustainable living.	OM-1 Building & Home User Guide OM-2 Retail Sustainability Guidelines OM-3 Green Purchasing Guidelines OM-4 Facilities Management Training OM-5 Recycling and Composting OM-6 Management Plans OM-7 Landscape Maintenance	<ol style="list-style-type: none"> 1. Each residential and commercial unit shall include a Building User Guide, that includes green purchasing guidelines. 2. All retail tenants must adhere to sustainability guidelines for the fit-out of their space. 3. Fort Monmouth must recycle 50% of its total waste stream.